

Subject: INFORMATION: Requested Guidance Material for
Certification of Slides and Slide/rafts (FAR 25.809)

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From: D. L. Riggin
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To: James W. Hart, Jr.
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This is in response to your letter of August 18, 1983, which concerned certification of slides and slide/rafts, and requested guidance material because of overlapping requirements for FAR 25 and the recently issued TSO-C69a.

It is true that, in some cases, the TSO contains requirements corresponding to requirements contained in Part 25. There is no intent, however, to combine TSO and Part 25 requirements. The granting of TSO authorization for an item merely acknowledges that the testing and other substantiation required by the TSO has been completed. It does not ensure that the item will be acceptable without further substantiation for use in a Part 25 airplane. Part 25 requirements always take precedence and further testing will be required if the Part 25 requirement goes beyond the corresponding TSO requirement or if the conditions assumed by the TSO are not representative of the actual installation of the item in a particular airplane.

As to marking of TSO-C69 slides after December 3, 1984, no additional marking is required as long as the TSO holder certifies to the FAA that the equipment is in compliance with Appendix 2 of TSO-C69a. There is no objection to the additional marking "complies with Appendix 2 of TSO-C69a", if the TSO holder so desires.

We will answer your specific questions and comment on your recommendations in the same order and format as presented.

Questions:

1. If the fabric substitution is not extensive enough of a design change to require a substantially complete investigation of the TSO, then it is considered a minor change as defined in FAR 25.611(a), and the TSO-C69 holder is only required to meet Appendix 2 of TSO-C69a. Any design change considered major, as specified in FAR 21.611(b), requires compliance with FAR 21.605 and new TSO authorization.
2. Yes, a slide could be approved as part of the airplane type design without TSO authorization and, therefore, without meeting the heat resistant fabric requirement of TSO-C69a.
3. No, slide/rafts which are presently part of the type design will not require heat resistant fabric after December 3, 1984.
4. As found acceptable by a certifying office, a new slide/raft with authorization under TSO-C69a, using the 3.6 feet² per occupant criteria, could have its capacity increased by obtaining an STC, using the past criteria of 3.0 feet² and no structural back support. Of course, the TSO authorization would be withdrawn.
5. If a new slide/raft is certified as part of the aircraft (existing certified aircraft), the new requirements of TSO-C69a should not be imposed. The existing certification basis and past precedents will prevail.

6. If a new slide or slide/raft (to be certified as part of the aircraft) is used on a new aircraft whose date of application for type certification is after the effective date of June 3, 1983, the new TSO-C69a should not be imposed.

Recommendations:

a. As noted above, the granting of a TSO authorization merely acknowledges that the testing and other substantiation required by the TSO has been completed. If the tests specified by the TSO are sufficient to also demonstrate compliance with the corresponding Part 25 requirements, there is no basis to require further FAA witnessed tests. This is, of course, the basic purpose of the TSO system. If, on the other hand, tests specified by the TSO do not fully show compliance with the corresponding Part 25 requirements (or any other applicable Part 25 requirement, for that matter), additional FAA witnessed tests are warranted.

b. The structural back support requirement was established to allow for standardization, assure against degradation of the liferaft mode, and also provide each occupant with a satisfactory space for survival. The safety and survivability of an occupant without back support could be adversely affected and this was considered a valid reason for the requirement.

c. We agree to the extent that Part 25 should be revised to reflect the same heat resistant fabric requirements for newly manufactured slides and slide/rafts certified as part of the aircraft.

d. We see no particular reason to delete the 25 kt. wind requirement from TSO-C69 at this time. Although this was not required by Part 25 prior to Amendment 25-46, it is a design standard chosen for TSO authorization that is desirable as a minimum for all transport airplanes, regardless of the certification basis. As noted above, a slide or slide/raft could be approved as part of the airplane type design without TSO authorization. It would, therefore, be possible to approve a slide or slide/raft on an airplane with a certification basis prior to Amendment 25-46 that does not meet 25 kt. wind requirement. Should Part 25 ever be amended to include a wind requirement greater than 25 kts., the Part 25 requirement would take precedence over the TSO requirement.

e. We do not believe that it is necessary to remove other TSO requirements that correspond to Part 25 requirements for the same reasons as noted above. If there should be a conflict between the TSO and current Part 25 that is causing confusion, then it would, perhaps, be advisable to amend the TSO accordingly.

Our response will be pursued further in discussions with AWS-100 and we will advise you of the outcome.